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Dr. Leidy read a paper, intended for publication in the Proceedings, entitled "On some American Fresh-water Polyzoa."

Also a second paper, intended for publication in the Journal, entitled "Description of a new species of fossil Crocodile."

Both communications were referred to the following Committee, Dr. Ruschenberger, Dr. Fisher, and Dr. Le Conte.

Mr. Lea read a letter from Mr. Edward Miller, giving the localities of the coal fossils presented by him this evening.

Mr. Lea also made some remarks on the scenery and geological characters of the White Mountains.

The following resolution was unanimously adopted:—

Resolved, That the thanks of this Society be presented to Dr. E. K. Kane, for the valuable donations made by him to the Museum of the Academy, of specimens of Natural History collected during his recent voyage to the Arctic Regions.

November 25th.

Vice President BRIDGES in the Chair.

The Committee on Dr. Leidy's description of a new species of Fossil Crocodile, from the Miocene of Virginia, reported in favor of publication in the Journal.

The Committee on the two following papers by Dr. Le Conte, reported in favor of publication in the Proceedings.

Synopsis of the species of DONACIA (Fabr.) inhabiting the United States.

BY JOHN L. LE CONTE, M. D.

* *Elytris depressis, triangularibus, truncatis: oculis orbito præditis.*

A. *Crassiusculæ, depressæ; antennæ articulis 2^{ndo} et 3^{io} subæqualibus: elytra profunde striata; femora dente postice emarginato, vel crenato.*

1. *D. magnifica*, splendide violacea, aureo-marginata, thorace quadrato, canaliculato, punctato, pedibus posticis magnis, tibiis incurvis. Long. .34. Lake Superior.

Mas, femoribus posticis bidentatis, tibiis intus serratis. Femina fem. post. unidentatis, tibiis non serratis. Lec. 1, 236. ? *D. dentata* (Fabr.) Lac. 1, 121.

2. *D. proxima*, nigro-violacea, punctis inauratis, thorace quadrato, vix punctulato, canaliculato, lateribus modice tuberculato, femoribus posticis magnis, tibiis fere rectis. Long. .35—.43. Lake Superior, and Saratoga, (N. York.)

Mas, tibiis posticis intus serratis, fem. post. tridentatis, dente anteriore parvo, remoto. Femina, tibiis post. non serratis, fem. bidentatis, dentibus approximatis; variat femoribus posticis unidentatis.

Kirby. 225. *D. episcopalis* Lac. 1, 105. *D. quadricollis* var. Say. J. Ac. 5, 282.

B. *Longiusculæ, antennis attenuatis, articulo 3^{io} 2^{ndo} multo longiore, thorace vix punctato.*

3. *D. congener*, aurea nitida, thorace quadrato, postice canaliculato, subtiliter alutaceo, parceque punctulato, lateribus subsinuatis, angulis non

prominulis, elytris rugulosis, femoribus posticis elongatis, minis incrassatis, antennis fuscis, articulo 3^{io} 2^{do} duplo longiore. Long. .35. Georgia.

Femina, fem. post. acute unidentatis, tibiis fere rectis: mas latet.

4. *D. lucida*, pernitida, thorace quadrato, obsolete punctulato, subcanaliculato, versus latera vix impresso, his rectis, angulis prominulis, margine basali reflexo, elytris disco vix rugosis, femoribus posticis valde incrassatis, antennis rufis, annulatis, articulo 3^{io} 2^{do} sesqui longiore. Long. .28—.34. New York, Pennsylvania, Georgia.

Mas, femoribus posticis bi-vel tri-dentatis, dente anteriore remoto, parvo tibiis intus curvatis, valde serratis. Femina fem. post. dente acuto armatis. Lac. 106. *D. cincticornis* Newman Ent. Mag. 5, 391, Lac. 200. Variat cuprea, violacea, et rufa, thorace nigro.

5. *D. rufescens*, parva, pernitida, rufa, thorace quadrato, postice subangustato, obsolete punctulato, subtiliter canaliculato, lateribus rectis, angulis prominulis, basi margine non reflexo, elytris disco non rugosis, apice late minus subito truncatis, antennarum articulo 3^{io} 2^{do} duplo longiore, femoribus post. valde incrassatis. Long. .24. Saratoga.

Femina fem. post. acute unidentatis, tibiis rectis. Mas latet. Lac. 112.

6. *D. palmata*, aureo-rufa, nitida, thorace breviusculo, quadrato, alutaceo parce obsolete punctulato, subtiliter canaliculato, tuberculis lateralibus parum distinctis, angulis subprominulis, elytris rugosis, antennarum articulo 3^{io} 2^{do} duplo longiore, femoribus posticis valde elongatis, modice clavatis. Long. .35. Penna., Mass., N. Y.

Mas, tarsorum antic. art. 1^{mo} valde dilatata; femor. post. dente magno lamellato, alteroque antico, minuto armatis. Femina femor. post. dente lamellato armatis. Ol. Ent. 75, tab. 1, fig. 7; Lac. 98: *D. claudicans* Germ. Mag. Ent. 4. 173. Variat violacea, et rufa, antennis annulatis, femoribus apice fuscis.

7. *D. alutacea*, cupreo-ænea, nitida, thorace alutaceo, opaco, quadrato, parce obsolete punctulato, subtiliter canaliculato, tuberculis lateralibus distinctis, angulis posticis prominulis, margine basali reflexo, elytris rugosis, antennis rufis, articulo 3^{io} 2^{do} duplo longiore, femoribus posticis valde incrassatis, apice nigris. Long. .32. N. York, Penna.

Mas. femor. post. dente lamellato, alteroque antico minuto remoto armatis. Femina femor. post. dente lamellato solo armatis.

Variat elytris violaceis. Præcedente simillima, et antennis brevioribus, thoracis basi reflexa, femoribusque posticis magis incrassatis differt.

8. *D. hypoleuca*, testacea, aureo-micans, thorace subtilissime alutaceo, quadrato, angulis prominulis, canaliculato, margine basali paulo reflexo, lateribus utrinque ad medium transversim leviter impressis, elytris non rugosis, antennarum articulo 3^{io} 2^{do} duplo longiore, femoribus posticis valde elongatis, modice clavatis. Long. .43. N. Orleans. Dom. Wapler.

Femina femor. post. dente sublamellato armatis, tibiis fere rectis. Mas latet. Lac. 101.

9. *D. piscatrix*, testacea aureo-nebulosa, vix nitida, thorace vix alutaceo, quadrato, angulis posticis prominulis, vix canaliculato, basi marginato, lateribus modice bituberculatis, ad medium profundius impressis, elytris ra-

gosis, apice rotundatim truncatis, antennarum articulo 3^{io} 2^{do} plus sesqui longiore, femoribus posticis modice clavatis. Long. 31—37. Saratoga, Catskill.

Mas, femor. post. dente lamellato armatis, alteroque minutissime remoto. Femina femor. post. dente lamellato armatis. Lac. 113.

10. *D. tuberculata*, æneo-cuprea, thorace dense alutaceo-rugoso, postice subangustato, angulis anticis prominulis, canaliculato, lateribus antice valde tuberculatis, elytris valde rugosis, apice vix truncatis, antennarum articulo 3^{io} 2^{do} sesqui longiore, femoribus posticis valde incrassatis, fuscis, basi rufis. Long. 24—30. Penn. Dr. Melsheimer.

Mas, femor. post. dente acuto, alteroque minuto remoto armatis. Femina, brevior, crassior, femor. post. non dentatis. Lac. 155.

C. Longiusculæ, elytris versus apicem magis subito attenuatis, thorace valde punctato, antennis minus attenuatis, articulo 3^{io} 2^{do} paulo longiore.

11. *D. pulchella*, testacea, aureo-viridimicans, thorace quadrato, dense subtiliter rugoso, angulis prominulis, canaliculato, margine basali subreflexo, disco versus latera vix impresso; elytris profunde striato-punctatis, rugosis, antennarum articulis 2^{do} et 3^{io} subelongatis, hoc paulo longiore, femoribus posticis modice incrassatis. Long. 35. New Jersey.

Mas latet. Femina femor. post. dente acuto armatis.

Habitus omnino *D. palmatæ*, differt tamen thorace rugoso, antennarum articulo 3^{io} minus elongato, denteque femorali non lamellato.

12. *D. subtilis*, depressa, elongata, ænea, thorace dense rugose punctato, quadrato, longiusculo, postice vix angustato, angulis prominulis, plus minusve canaliculato, lateribus fere rectis, vix impressis, elytris triimpressis, interstitiis planis, transversim dense rugosis, antennarum articulo 3^{io} 2^{do} sesqui longiore, femoribus posticis minus elongatis, magis clavatis, subtus dente acuto armatis. Long. 27—38. New York and Pennsylvania.

Variat cupreo-ænea; variat quoque elytris non impressis. Specimina minora thorace profundius impresso gaudent. Kunze, (Nov. Act. Halens. 2, 4, 12:) Lac. 147. *D. ænea* Ahrens. Nov. Act. Hal. 1, 3, 21. *D. quadricollis* Say. J. Ac. 5. 282.

13. *D. confluentis*, depressa, elongata, ænea, thorace quadrato, longiusculo, postice subangustato, dense rugose punctato, angulis prominulis, medio ante basin impresso, lateribus, subsinuatis, tuberculo depresso paulo prominulo: elytris antennis pedibusque sicut in *D. subtili*. Long. 32. Pennsylvania.

A præcedente tuberculis thoracis minus oblitteratis, thoraceque non canaliculato, et postice impresso solum differt. Forte varietas mera haberi debetur. *D. confluenta* Say, J. Ac. 5, 293. Lac. 199.

14. *D. fulgens*, depressa, læte aurea, thorace quadrato, postice non angustato, confertim rugose-punctato, angulis posticis non prominulis, lateribus rectis, vix impressis, elytris versus suturam obsolete biimpressis antennis pedibusque sicut in *D. subtili*. Long. 32. Lake Superior.

D. subtili, paulo latior, et thorace non canaliculato differt. †Lec. 236.

15. *D. porosicollis*, valde elongata, cupreo-ænea, antennis pedibusque rufis, thorace subtiliter alutaceo, sat dense punctato, quadrato, angulis prominulis subcanaliculato, lateribus rectis, elytris interstitiis planis, transversim dense

striatis versus suturam depressis, lateribus sensim declivibus, femoribus posticis minus elongatis, subtus dente acuto armatis. Long. .34. Lake Superior. Lac. 150.

D. Crassiusculæ, elytris apicem versus magis angustatis, thorace punctato tuberculatoque, elytris valde rugosis, antennis minus attenuatis articulo 3^o 2^{ndo} paulo longiore.*

16. *D. hirticollis*, obscura, thorace dense punctulato, pubescente, lateribus bituberculatis, femoribus posticis vix unidentatis. Long. .30—.36. Lake Superior, Saratoga. Kirby, 226; Lac. 203. *D. rudicollis*. Lac. 108. Variat rufa.

17. *D. distincta*, cupreo-ænea, thorace punctato, quadrato, postice subangustato, angulis prominulis, lateribus modice tuberculatis, canaliculato, margine apicali basalique reflexo, elytris interstitiis planis, versus suturam depressis, biimpressisque, lateribus sensim declivibus, apice minus truncatis, femoribus posticis magis clavatis, dente acuto armatis. Long. .36. Lake Superior.

Habitus fere *D. proximæ*. †Lec. 236. *D. æqualis* †Kirby, 225.

*** * Elytra subparallela, apice subtruncata vel rotundata; antennarum articuli 2^{ndus} et 3^{ius} subæquales; femora postica paulo elongata; thorax postice angustatus.**

A. Oculi orbito distincto præditi; elytra paulo convexa.

18. *D. confusa*, minus elongata, capite non toroso, thorace longiusculo subtiliter rugoso, postice subangustato, angulis prominulis, canaliculato, lateribus modice tuberculatis, disco versus angulos anticos profunde impresso, elytris apice truncatis, striis externis profundioribus, subtiliter rugosis, versus suturam valde biimpressis, femoribus posticis nigris, basi rufis, dente lamellato armatis. Long. .27. Mass., Ohio, and Lake Superior.

Mas, femor. post. dente maiore armatis. Variat violacea, et nigro-ænea; interstitiis elytrorum internis sæpe lævigatis. †Lec. 237.

19. *D. torosa*, longiuscula, nigro-violacea, capite valde toroso, thorace alutaceo, parce subtiliter punctato, longiusculo, postice angustato, angulis prominulis, lateribus tuberculatis, subcanaliculato, elytris vix triangularibus, apice rotundatim truncatis, rugosis, dorso biimpressis, femoribus posticis modice clavatis, dente minus acuto armatis. Long. .25. Mass. Dr. Harris.

B. Oculi orbito modice distincto præditi; femora postica dente armata; corpus lineare depressum; antennæ articulo 3^{io} longiusculo.

20. *D. aurifer*, ænea vel læte aurea, antennis pedibusque rufis, illis fusco, annulatis, capite paulo toroso, thorace longiusculo, postice angustato, ruguloso-parceque punctato, angulis vix prominulis, tuberculo laterali parvo, vix prominulo, vix canaliculato, ante basin profunde transversim impresso, elytris apice rotundatis, profunde punctato-striatis, rugosisque. Long. .26. Lake Superior.

Variat thoracis disco utrinque impresso. †Lec. 237.

*This group approaches in form *A, but the species are more convex, and the tooth of the femora is not crenate.

C. Oculi orbito valde obsoleto, vel nullo præditi; elytra parallela convexiuscula, vel apice rotundata, vel vix truncata: femora postica dente armata.

æ. Thorax longiusculus, minus convexus; pedes mediocres, femoribus posticis modice clavatis, basi tenuibus.

22. *D. cuprea*, subelongata, ænea, capite modice toroso, thorace dense ruguloso, postice subangustato, angulis prominulis, late canaliculato, lateribus modice tuberculatis, elytris dense rugosis, vix biimpressis, femoribus posticis dente magno armatis, antennis annulatis, articulo 3^{io} 4^{to} brevior. Long. 25—32. Lake Superior. Kirby 225: Lac. 203.

Variat? cyanea, antennis pedibusque totis rufis.

23. *D. dives*, subelongata, ænea, capite non toroso, thorace dense ruguloso punctatoque, postice paulo angustato, angulis prominulis, vix canaliculato, ante basin transversim impresso, lateribus subtuberculatis elytris leviter biimpressis, femoribus posticis dente magno armatis, articulo antennarum 3^{io} tenui 4^{to} æquali. Long. 31. Lake Superior, specimen unicum.

24. *D. pusilla*, elongata ænea, capite non toroso, thorace confertissime rugoso, postice angustato, angulis anticis subprominulis, canaliculato ante basin transversim impresso, tuberculo laterali distincto, elytris dense rugosis, biimpressis, impressione anteriore obliqua, antennis crassiusculis, articulis 2—4 gradatim vix longioribus, femoribus posticis dente mediocri armatis. Long. 23—26. Lake Superior, Mass. Penn.

Variat viridis et aurea. Say. J. Ac. 5, 293: Lac. 199.

25. *D. emarginata*, capite non toroso, thorace ruguloso, parce-punctato postice paulo angustato, angulis prominulis, late canaliculato, tuberculo laterali prominulo, impressione profunda separato, elytris plus minusve rugosis obsolete biimpressis, femoribus posticis dente magno armatis, ano emarginato, antennarum articulo 3^{io} 4^{to} brevior. Long. 26. Lake Superior, Mass., and Pennsylvania.

Mas linearis, angustus; femina minus elongata.

Variat aurea, cuprea, cyanea et nigra: antennis pedibusque semper obscuris. Kirby 224: Lac. 202. *D. biimpressa*, Mels. P. Ac. 3, 159. *D. aurichalcea*, Mels. ibid.

26. *D. metallica*, subelongata, nitida, capite non toroso, thorace ruguloso, disco utrinque lævigato, postice regulariter paulo angustato, angulis anticis prominentibus, tuberculis lateralibus vix prominulis, canaliculato, ante basin transversim profunde impresso, elytris rugosis, femoribus posticis dente parvo armatis antennarum articulo 3^{io} 4^{to} vix brevior. Long. 23—26. Pennsylvania.

Mas antennis longioribus, femorum dente distincto: femina antennis brevioribus, femorum dente obsoleto. Variat aurea, ænea, viridis et æneo-nigra, antennis plus minusve rufis. Ahrens Nov. Act. Hal. 1, 3, 33: Lac. 189. *D. nana* Mels. P. Ac. 3, 160.

27. *D. gentilis*, longiuscula, nitida viridi-ænea, capite non toroso, thorace ruguloso, disco utrinque lævigato, postice magis angustato, angulis anticis prominentibus, tuberculo laterali prominulo, canaliculato, ante basin trans-

versim impresso, elytris rugosis, femoribus posticis dente parvo armatis, antennarum articulo 3^{to} 4^{to} fere æquali. Long. .24. Pennsylvania.

Femina latet.

28. *D. flavipes*, subelongata, ænea, vel nigro ænea, capite subtoroso, thorace minus dense rugose-punctato, postice angustato, angulis prominulis, profunde canaliculato, tuberculo laterali prominulo, ante basin valde impresso, elytris parcius rugosis, femoribus posticis dente magno armatis, pedibus antennisque plus minusve rufis, his breviusculis, articulo 3^{to} 4^{to} vix brevior. Long. .33. Mass. Lake Superior and Pennsylvania. Kirby, 223: Lac. 201.

β. Thorax convexus: pedes breves crassi, femoribus posticis ellipticis, basi non attenuatis, subtus dente valido armatis.

29. *D. iucunda*, subelongata, cupreo-ænea nitida, thorace punctato, cordato, angulis vix distinctis, tuberculis lateralibus obsoletis, profunde canaliculato ante basin valde impresso, elytris profunde seriatim punctatis, vix rugosis, pedibus antennisque rufis, his crassiusculis, articulo 3^{to} 4^{to} vix brevior. Long. .27. Lake Superior. †Lec. 237.

30. *D. Kirbyi*, subelongata, cupreo-ænea, nitida, thorace parce-punctato, cordato, angulis rotundatis, tuberculo laterali distincto parum prominulo, subtiliter canaliculato, ante basin valde impresso, elytris interstitiis planis vix rugosis, ante medium impressis, pedibus antennisque rufis, his articulo 3^{to} 2^{ndo} sesqui longiore 4^{to} paulo brevior. Long. .28. Georgia.

Variat tuberculo thoracis laterali minus distincto. Lac. 201. *D. affinis*|| Kirby, 224.

31. *D. sulcicollis*, brevis, thorace parce subtiliter punctato, cordato, angulis paulo prominulis, tuberculo laterali paulo prominulo, canaliculato, ante basin valde impresso, elytris profunde seriatim punctatis, vix rugosis, ante medium obsolete impressis, pedibus antennisque rufis, his articulis 2^{ndo} et 3^{to} æqualibus, 4^{to} vix brevioribus. Long. .33. Mass., Maine, Pennsylvania, Drs. Melsheimer and Harris.

Præcedente brevior, thorace latiore: mas femina paulo angustior; variat cuprea viridis, et ænea, tuberculis thoracis sæpe obsoletis. Lac. 186. *D. metallica*|| Say. J. Ac. 5, 283.

***Elytra parallela, vix truncata; antennæ articulo 2^{ndo} brevior, thorax postice angustatus: oculi orbito præditi.

32. *D. femoralis*, minus elongata, ænea, pedibus rufis, vel fuscis, capite toroso, thorace subtiliter rugoso: parce punctato, longiusculo, angulis prominulis, vix canaliculato, ante basin impresso, lateribus subtuberculato, elytris convexis, profunde seriatim punctatis, rugosis, antennis annulatis, articulis 3^{to} 4^{to}que æqualibus, 2^{ndo} sesqui brevior. Long. .26. Lake Superior.

Mas subelongatus, femor. posticis dente acuto armatis: femina femor. postmuticis. *D. cuprææ*, et *diviti* sectionis præcedentis similis, oculis tamen orbito præditi valde distincta. Kirby, 222: Lac. 200.

*****Elongatæ*, oculis vix prominulis, orbito nullo; elytra convexa apice truncata: antennæ tenues articulo 2^{do} breviores.

33. *D. Harrisii*, elongata ænea, capite vix toroso, thorace longiusculo, dense rugose punctato, postice vix angustato, angulis prominulis, subtiliter canaliculato, ante basin impresso, tuberculo laterali vix prominulo, impressione postice definito, elytris parallelis, versus apicem oblique angustatis, valde seriatim punctatis; parce rugosis, antennis annulatis, articulo 2^{do} reliquis duplo breviores. Long. .42. Penn. rarissime.

Mas femoribus posticis incrassatis ellipticis dente acuto armatis.

Femina femor. posticis paulo incrassatis muticis. *D. inermis* Harris. MSS.

Species singularis, oculis parvis habitu *Statyræ* (*Lagriarum*) subsimilis.

Species mihi ignotæ.

34. <i>D. carolina</i> Lac.	in *B. inscribendum
35. <i>D. militaris</i> Lac.	*B.
36. <i>D. erea</i> Lac. 148.	*C. prope <i>D. subtilum</i> .
37. <i>D. pallipes</i> Lac. 149.	**A. prope <i>D. confusam</i> .
38. <i>D. assimilis</i> Lac. 153.	*C?
39. <i>D. vicina</i> , Lac. 154.	*C?
40. <i>D. chalcea</i> Lac. 188.	**C. β .
41. <i>D. parva</i> Lac. 190.	**C. β .
42. <i>D. binodosa</i> Germ. Lac. 195.	**C. β .
43. <i>D. æqualis</i> Say J. Ac. 3, 428.	**C. χ . prope <i>D. emarginatam</i> .
44. <i>D. rufa</i> Say J. Ac. 5, 283.	**C. χ ?

Species dubiæ, vel descriptione non cognoscendæ.

<i>D. fulvipes</i> Lac. 192.	**C. χ . =? <i>D. pusilla</i> Say.
<i>D. cataractæ</i> Newman Ent. Mag. 5, 391.	**C.
<i>D. rugifrons</i> Newman, ib.	**C. =? <i>D. emarginata</i> Kirby.
<i>D. cuprea</i> Mels. P. Ac. 3, 158.	*B. =? <i>D. tuberculata</i> ♂.
<i>D. indica</i> Mels. ib.	*** =? <i>D. femoralis</i> Kirby.
<i>D. rutila</i> Mels. P. Ac. 3, 159	*B. =? <i>tuberculata</i> ♀.

Words cited in abbreviation.

LAC. Monographie des Coléoptères subpentamères, par Th. Lacordaire. Vol. 1.

LEC. Le Conte in Agassiz, Lake Superior. Boston, 1850.

MELS. Melsheimer in Proceedings of the Academy of Natural Sciences.

KB. Kirby in Fauna Boreali Americana. Vol. IV.

Zoological Notes.

By JOHN L. LE CONTE, M. D.

During a visit to Panama, in December, 1849, I had frequent occasion to observe many animals of such frail texture, as to render impossible any attempt to preserve them, and took many notes respecting their appearance and habits. By an

accident, my manuscript, while being sent home, was rendered nearly illegible, and I am now able to recover only a few fragments of it. I have thought that the animals observed were of sufficient importance to warrant the publication of my notes, although not relating to the subjects of my own special researches.

I had intended to prefix a few observations respecting the geographical distribution of organic beings on the Isthmus, but having recently received through the kindness of friends, collections which serve to make a more minute comparison between the productions of different parts of the year, I will postpone for the present, the discussion of the phenomena observed, and merely state a single fact which appears to me of great importance, in considerations regarding the limit of the effects of physical causes. During the month of December I labored assiduously to procure a set of the Coleoptera of the vicinity of Panama, and was surprised, on looking over my collection, to find a complete absence of the genera known to be confined to the tropics. In fact, with the exception of half a dozen Chrysomelines, there was not a single species which might not have come from a region far north of the tropics. It is known that in the southern part of the temperate zone, the Carabica, Brachelytra, water beetles, &c., which first appear in the spring at northern localities, are most abundant in winter, and this would be naturally explained by the fact that the temperature in that season is most nearly akin to that of the regions in which they flourish best. But it is a little alarming for the doctrine of physical causes, to find that the same arrangement in the appearance of species is kept up in a region where climate can have nothing to do in producing these phenomena.

OPHIOLEPIS Müll.

O. annulata, disco squamis minimis imbricatis dense tecto, radialibus 10 paulo majoribus, distantibus; brachiorum squamis dorsalibus hexagonis, latitudine sesqui brevioribus extrorsum angustatis, ventralibus subquadratis, extus submarginatis; scutis buccalibus utrinque subacutis latitudine non longioribus, postico umbone depresso, foraminisque marginalibus 8 distincto; brachiis dorso fusco annulatis, disci diametro 7^{ies} longioribus. Long. 4—5½ unc.

Color grayish yellow; disc brown with closely approximated pale spots; arms seven times as long as the diameter of the disc, with every fourth dorsal plate dark; the scales of the disc are very small and imbricated, the radial ones scarcely larger, and widely separated. The oral plates are rounded on the lateral angles, and are not surrounded with papillæ; but from the apex of each run two rows of small papillæ, which follow the inflexed margin of the fleshy part of the disc. The oral papillæ are distinct, four on each side. The tentacular pores have each two small scales, the spines are arranged in three rows, their length is equal to the diameter of the arms. This species apparently resembles *O. reticulata* Muller, 95. *Ophiura reticulata* Say (J. Ac. 5, 148,) but the spines are longer.

2. *O. geminata*, disco squamis minimis imbricato, scutis radialibus magnis, elongatis, per paria valde approximatis, brachiorum squamis dorsalibus latitudine duplo brevioribus, intus subangulatis, ventralibus transversis, subpentagonis; scutis buccalibus rhomboideis, angulis acutis, angulo aborali truncato; scuto postico umbone nullo, foramine unico apicali notato, brachiis dorso maculatis, disci diameter 6—7^{ies} longioribus. Long. 3—4 unc.

Pale gray; arms marked with scattered brown spots. Oral plates not surrounded with papillæ, angles acute, the distal one truncate; the posterior plate is distinguished by only a single marginal foramen. The inflexed margin of the disc is not margined with papillæ as in the preceding species; the oral papillæ are large, and there are only three on each side: the tentacular pores have two small oblong scales; the spines are in three rows, and their length is only one half the diameter of the arms; the spines of the middle row are rough. This species seems very similar to *O. elongata* Mul. 95. *Ophiura elong.* Say J. Ac. 5, 146.

3. *O. simplex*, subtus pallida, supra obscura, disco scutis mediocribus, granulatis; subimbricatis tecto, radialibus paulo maioribus modice approximatis, interstitio scutis duobus; brachiorum scutis dorsalibus latitudine duplo brevioribus, lateribus rotundatis, ventralibus quadratis angulis, rotundatis, squama tentaculorum unica; spinis lateralibus serie 5-plici sitis, scutis buccalibus transversis, subrotundatis, postico foramine apicali notato: brachiis disci diametro 7ies longioribus. Long. 4 unc.

Pale beneath, above blackish brown; arms marked with a few paler bands; the scales are all finely granulated, the radial ones separated by two plates. The oral plates are not surrounded with papillæ, and on each side there is only a single oral papilla; the tentacular pores are protected with single scales, the second scale being spiniform and forming the lowest of the five series of lateral spines, the longest of which is scarcely equal to the diameter of the arms.

4. *O. hispida*, albicans, maculis parvis nigricantibus supra adspersa disco squamis minutis imbricatis tecto, spinulisque brevissimis dense hispido: scutis radialibus elongatis, approximatis; brachiorum scutis dorsalibus latitudine triplo brevioribus extrorsum subrotundatis, ventralibus quadratis, transversis, angulis rotundatis, spinis lateralibus serie triplici sitis, longitudine dimidium brachiorum diametri æquantibus; scutis buccalibus rhomboideis, postico foramine apicali notato, brachiis disci diametro 10ies longioribus. Long. 6 unc.

Only a single specimen found very distinct by the hispid surface of the disc. The oral plates have on each side 3 or 4 tolerably large papillæ. The tentacular pores have two small elliptical scales.

Besides the species described above, a large one was given me by Dr. Duchassaing, which strongly resembles *O. serpentaria*, from the West Indies. The dorsal plates of the arms were a little more transverse, and the buccal plates more rounded. Not having had sufficient opportunity for examining whether these should be considered as specific differences, I forbear for the present expressing an opinion on this specimen.

ΟΡΗΙΟΤΗΡΙΧ Μul.

O. spiculata, supra obscura, subtus pallido-maculata, disco confertim spiculato, spiculis echinatis, spinis maioribus versus medium intermixtis, scutis radialibus magnis, triangularibus, granulatis, rarius spiculatis, angulo brachiali albicante, per paria approximatis, brachiorum scutis dorsalibus sub-carinatis vix transversis, angulis lateralibus acutis, margine externo fortiter rotundato ventralibus quadratis sub-transversis, lateribus rotundatis, spinis lateralibus serie 7plici sitis serie superiore vix brevior; oris scutis transversis, angulis lateralibus rotundatis, externo acuminato, brachiis diametro 6ies longioribus. Long. 4—5 unc.

This species is very variable as regards the closeness of the numerous short

serrate spiculæ which clothe the disc; the radial plates are more or less distinct, sometimes nearly free from spiculæ; they are large and granulate, the angle which is above the base of the arm nearly touches the corresponding angle of the next plate, and is whitish. The oral plates are wider than long, with the oral angle distinct and the lateral angles rounded; the apex is acuminate. The inner series of plates bounding the oral plates is very narrow. The brachial spines are arranged in 7 rows, the two inferior ones being the shortest; the others are about twice as long as the diameter of the arm, and serrate from base to tip; they are transparent, with the apex frequently black. The body is dark fuscous above, and pale beneath; every fifth ventral plate on the arms is sometimes red or brown.

Some of the varieties of this species may possibly be *Ophiothrix ciliaris* Mul.; the young are pale colored, and very like the adults; the plates which margin the oral plates are relatively larger, being one half the size of the latter.

PLANARIÆ.

GLOSSOSTOMA. n. g.

Body vermiform. Head continuous with the body. Eyes 10—16 in each side of the head. Mouth subterminal, with a retractile tentacle on each side. Intestinal tube ramose. Marine.

1. *G. nematoidium*, pallide flavicans, pellucidum, filiforme, ocellis utrinque 10—16 minutissimis; cæcis intestinalibus brevibus obtusis. Long. .1. unc.

This animal has so little the appearance of a Planaria, that I long hesitated to refer it to this genus; but on careful examination, I could perceive no distinct character by which to separate it. The mouth is situated near the end, and on the inferior surface of the body; it is furnished on each side with a small blunt retractile appendage. The ocelli are very minute, and situated on each side in an oblong group, about half a line from the extremity, the abdominal cæca are large and blunt.

ELASMODES. n. g.

Body dilated, flat. Head continuous with the body, without appendages. Ocelli 5 on each side. Mouth antero-inferior, œsophagus ventral; intestinal tubes reticulated, radiating. Marine.

1. *E. discus*, latissima, planissima, pallida, pellucida, tubulis intestinalibus reticulatis, tenuibus, e ventre oblongo radiantibus, ocellis utrinque 5 valde approximatis ab apice remotis. Long. .34, lat. .25, unc.

Very flat and thin, pellucid, only rendered darker in the middle by the slight color of the intestinal tubes, which are very fine and numerous, radiating from a central cavity which is five times as long as wide. Ocelli five on each side, closely approximated; groups separated by a space equal to one-third the distance from them to the margin or apex.

Typhlolepta? extensa, planissima, supra purpurea vel brunnea, margine pellucido, tubulis intestinalibus tenuissimis; numerossissimis, e canali tenui orientibus. Long. 1.25, lat. .32 unc.

Less dilated than the last, but equally thin; owing to the immense number of small intestinal tubes the color appears uniform, the central tube extends to within two lines of each extremity. There are no visible ocelli.

ZOANTHA CUV.

Z. Danai, pallide purpurascens, tentaculis brevissimis, crassitie non longioribus, disco viridi, extrorsum purpurascente ore parvo purpureo-marginato, tentaculis externis basi pallidis. Diam. disci .25, unc.

Remarkable for the shortness of the tentacula, which, when fully extended, are scarcely longer than the diameter of their base; they are arranged in two series; those in the outer series are pale at the base. The disc is radiately rugose, brilliant green, margined both internally and externally with purple. The root is broad, the animals closely associated, capable of extending 1.25 inches.

I have named this species as a feeble tribute of respect to the philosopher to whom we owe the first rational classification of Zoophyta.

The Committee on the following paper, by Dr. Leidy, reported in favor of publication.

On some American fresh-water Polyzoa.

By JOSEPH LEIDY, M. D.

Since I described several species of fresh-water ciliated polyps in the last number of the Proceedings, we have received the report of the British Association for 1850, in which I find a very able and complete report upon "the present state of our knowledge of the fresh-water Polyzoa," by Prof. Allman, M.D.

Prof. Allman has very correctly applied the term Polyzoa, of Thompson, to the ciliated polyps, because it had been employed prior to the application to them of the term Bryozoa, of Ehrenberg.

Prof. A. has also invented some very happy terms, applicable to different parts of the structure of the Polyzoa. Thus for the common dermal system and solid basis of a colony of polypes he uses the word Cœnœcium. The external tunic of the latter he calls the Ectocyst, and that lining the tubes the Endocyst, and the disk supporting the tentaculæ is named the Lophophore.

According to the characters given to the genus *Cristatella*, Cuv., the species which I described in the last number of the Proceedings as *C. magnifica*, cannot belong to that genus, as I then suspected; for *Cristatella* has a "common flattened disk adapted for locomotion," nor can it belong to *Lophopus*, Dumort, for although it has its base of attachment fixed, yet the ova of the animal have no marginal spines, and it therefore must form a distinct genus between *Cristatella* and *Lophopus*, with the following diagnosis:—

PECTINATELLA, Leidy.

Cœnœcium massive, gelatinoid, hyaline, fixed, investing bodies, Orifices arranged in irregular lobate areolæ upon the free surface. Lophophore crescentic. Ova lenticular, with an annulus and marginal spines.

1. PECTINATELLA MAGNIFICA, Leidy.

Cristatella magnifica, Leidy. Proc. A. N. S., V. 265.

Remark.—Found only in shaded situations, always incrusting dead branches of trees.

PLUMATELLA, Lamarck.

1. PLUMATELLA DIFFUSA, Leidy. Pr. A. N. S., V. 261.

2. PLUMATELLA NITIDA, Leidy.

More robust than the preceding, color light olivaceous brown, consisting usually of only a few branches; tubes amphoræform, without a keel, smooth or transversely corrugated near the orifices which are entire. Length of the articuli one line, breadth one-fourth of a line. Polyp has the same form as in the preceding, and also the same number of tentaculæ.

Habitation.—Found with the preceding.

Remarks in connection with Plumatella.—Almost every stone, in many parts of the Schuylkill river, particularly below the dam at Fairmount, has adhering to it numerous eggs of Plumatella in short rows, which upon superficial inspection resemble prismatic crystals of some mineral.

PALUDICELLA, Gervais.

1. PALUDICELLA ELONGATA, Leidy.

Cœnœcium attached throughout, or attached by only a few articulations, the remainder floating; delicate, very much branching, colorless or ambreous, shining. Articulations very long, claviform; tubes of exit variable in length, placed close to the distal extremities; orifices entire.

Polyps with sixteen tentaculæ arranged in the form of an inverted cone. Stomach brown in color.

Measurements.—Articuli of cœnœcium to 1 line in length, by 1-133d in. in breadth at the dilated part, and 1-285th in. at the narrow part.

Habitation.—On the under side of stones in the Delaware and Schuylkill rivers. It is found in vast profusion below the dam of the Schuylkill at Philadelphia.

Besides the foregoing, I have observed what I suspect to be the cœnœcium of a new genus of Polyzoa, although I have never been able to detect the polyps if such exist. It resembles when viewed by the naked eye a very minute *Isis hippuris*, or the coralline *Amphiroa corymbosa*. Under the impression that it belongs to the Polyzoa, it may be characterized as follows:

URNATELLA, Leidy.

Cœnœcium membrano-corneous, consisting of several divergent, unbranching filaments, attached by a common basis. Filaments consisting of a series of urn-shaped articulations, with a solid axis passing through the whole, and having to each articulation one, occasionally two, tubes of exit, with the orifices expanded, placed inferiorly near their commencement.

URNATELLA GRACILIS, Leidy.

Usually three to five filaments arising from a common basis of attachment. Articulations up to nine in number to a filament, very regularly urn-form except the distal two which are inverted pyriform, decreasing in breadth from the first to the last. Body portion of each urn-form articulation yellowish white, translucent, with fine transverse bands or striæ, and punctæ of brown; neck or pediculate portion, columnar, transversely contorted, expanded at base, black. Tubes of exit one, occasionally two, to each articulation except the last, which has none, placed at the lower part of the body portion of the

articulation, and curving upwards, with the orifices expanded and horizontal or nearly so, amber colored with darker punctæ. Interior axis white, opaque.

Measurements.—Length of a filament of 9 articulations 1 line; first articulation 1-140th in. in breadth, last 1-220th in.

Habitation.—Found growing on the under side of stones in the same situation as *Plumatella* and *Paludicella*, in the river Schuylkill below the dam, at Philadelphia, below low water mark.

Remarks.—A very beautiful and graceful form, as before mentioned resembling a miniature *Isis hippuris*.

The cœcœcium is hard and resistant, and has no carbonate of lime entering into its composition as might probably be suspected. When compressed, the axis or interior central, white, opaque column is squeezed out of the ruptured articulations in the form of transparent colorless oleoid granules, from the 1-32,000th to the 1-4,000th of an inch in diameter.

I have frequently found this enigmatic body, which I suspect to belong, as previously stated, to a *Polyzoon*, but I have never been able to detect the polyp. The filaments appear never to go beyond nine articulations, nor have I ever found more than five filaments to a group.

Reference to the figures.

All the figures are much magnified.

Fig. 1. Two articulations in outline of *Paludicella elongata*, with a terminal young articulation.

Fig. 2. One articulation of *H. elongata*, with a second terminal young one.

Fig. 3. *Urnatella gracilis*, with three of the filaments cut off from the expanded base.

Fig. 4. A single articulation of *U. gracilis* with two tubes of exit.

Fig. 5. A separated articulation of *U. gracilis* under compression, with the escape of oleoid granules below from the central axis.

The Corresponding Secretary read a Report, embracing the last six months, which was adopted.

Dr. Fisher offered the following, which was adopted:

Resolved, That a Committee of three members be appointed to inquire into the expediency of enlarging the Hall of the Academy, so as to furnish greater accommodation for the Museum and Library, and to report a plan for the same, together with an estimate of the expense, and to report at the annual meeting, December 30th, next.

Dr. J. C. Fisher, William S. Vaux, and Dr. Bridges, were appointed the Committee under this resolution.

The following resolution was also adopted:—

Resolved, That the privilege of endorsing tickets of admission to the Museum on public days, be granted to Mrs. Emily Taylor, widow of Richard C. Taylor, late a distinguished member of this Institution, and that she be authorized and invited to visit at all times the Museum and Library.

ELECTION.

Robert A. Caldecleugh, Esq., of Philadelphia, was elected a *Member* of the Academy.

December 2d.

Vice-President BRIDGES in the Chair.

Letters were read :—

From Dr. E. K. Kane, acknowledging the receipt of a copy of the resolution of thanks to him, adopted at a late meeting of the Academy, and stating his intention to make also a donation of a small collection of plants from a high Northern latitude, (76° 15'.)

From the Royal Academy of Sciences of Stockholm, dated November, 1849, and October, 1850, acknowledging the receipt of several numbers of the Proceedings and Journal of this Academy.

From the same, of same dates, transmitting the Transactions of the Academy, Parts 1 and 2 for 1848, and of the Bulletin for 1849, and also a medallion in copper of the late Jacob Berzelius.

From the Royal Academy of Sciences of Madrid, transmitting Part 1, Vol. 1, third series of its Memoirs, and a resumé of its transactions for the years 1848–49. Also inviting experimental essays on the subject of Nitrification for a *Concours*, and announcing that prizes would be awarded for the best essays.

December 9th.

Vice-President WETHERILL in the Chair.

Communications were read from :—

Mrs Emily Taylor, dated Philadelphia, December 6th, 1851, returning acknowledgments for the Resolution adopted by the Academy, conferring the right of endorsing tickets of admission to the Museum.

And from Mrs. Rebecca Morton, dated Philadelphia, Dec. 8th, 1851, returning thanks for copies of Dr. Meigs' Memoir of the late Dr. Morton, presented to her by the Academy.

Dr. David Dale Owen read a paper intended for publication in the Journal, entitled "Description of a new Mineral and a new Earth." Referred to a Committee, consisting of Mr. Vaux, Dr. C. M. Wetherill, and Dr. McEuen.

Professor Horner read a history of some cases of Articular Inflammation of the Knee, treated successfully with Urates of Ammonia. Referred to Dr. Leidy, Dr. Hallowell, and Dr. Rand.

Professor Horner introduced to the Society Monseigneur Demers, Bishop of Vancouver, who gave much interesting information respecting the habits, language, and traditions of the Indian Tribes of Oregon, forty-one of which, out of seventy-one, had been visited by him. He also offered the hospitalities of the Mission to which he was at-